POINT CLOUD TO CAD
POINT CLOUD TO BIM
D Vector Drawings • Floor Plans • Elevation Sheets
3D Parametric Model • MEP Coordination • Clash Detection

Point Cloud to CAD vs Point Cloud to BIM

Which Deliverable Fits Your Project? A practical guide to choosing the right output from your reality capture data – and why that decision changes everything downstream.

BY TEJJY INC.

The Uncomfortable Truth: The Point Cloud Is the Same

Every project starts from the same reality capture. Whether you invest in a $500 scan or a $5,000 one, the raw point cloud is your common foundation. **Your value isn't in the scan itself — it's in what you build from it.**

Path A

CAD drawings – geometry as DWG linework

Path B

BIM model – intelligent 3D objects in Revit/IFC

CHAPTER 1

Point Cloud to CAD: What It Really Produces

The Output

CAD converts point cloud data into **DWG/DXF linework** – plans, elevations, and sections derived from cut planes through the scan. The result is precise 2D geometry that integrates seamlessly into traditional drafting workflows.

The Advantage

Fast, familiar, and cost-effective documentation when your workflow *lives in 2D*. Ideal for teams that don't require model intelligence – just clean, accurate drawings.

When CAD Wins: Speed, Permits & Simple Coordination

Permits & Tender Packages

You need clean, submission-ready plans immediately – not object intelligence. CAD delivers faster turnaround for regulatory submissions.

Leasing & Space Planning

Rentable area calculations are typically validated with 2D floor boundaries – a natural fit for CAD deliverables.

Budget-Constrained Projects

When downstream teams don't require BIM deliverables, CAD avoids over-engineering the output and keeps costs controlled.

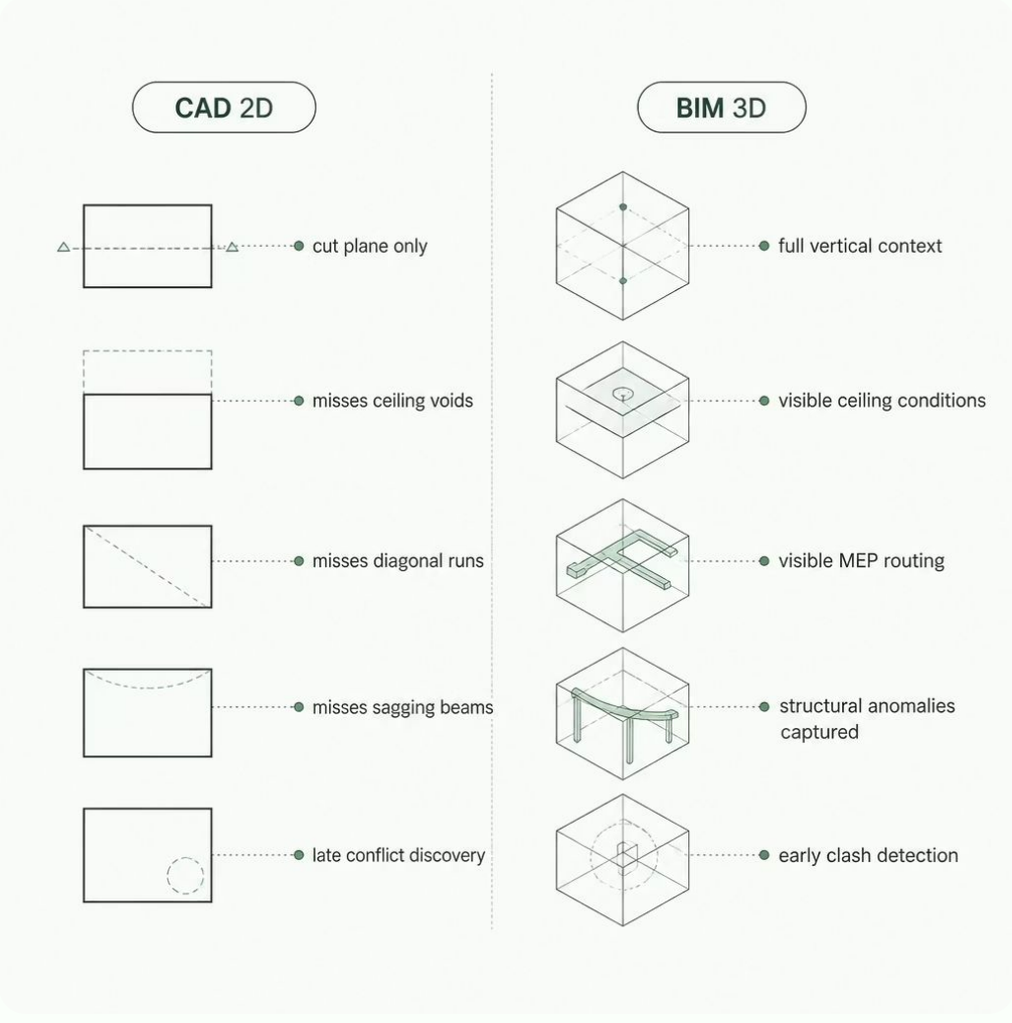
CAD's Hidden Cost: Fixed Perspective Limits Risk

What 2D Slices Can Miss

A cut plane captures one horizontal slice of reality. Everything **above or below that plane** – ceiling voids, sagging beams, diagonal pipe runs, hidden structural anomalies – remains invisible in the drawing set.

Conflicts that don't appear in flat drawings often surface during construction, when corrections are exponentially more expensive.

⚠ Flat assumptions can lead to costly site surprises. 2D is fast – but it's not the full picture.



CHAPTER 2

Point Cloud to BIM: What Changes

BIM transforms point cloud data into a **structured, intelligent 3D model** in Revit or IFC format – where every element carries identity, geometry, and relationships, not just lines.

Intelligent Elements

Walls, beams, ducts, and pipes are modeled as parametric objects – not drawn lines.

Automated Drawing Generation

Plans, sections, and elevations update automatically from a single coordinated model.

Model-Based Workflows

Supports synchronized multi-discipline views, clash detection, and lifecycle data handover.

When BIM Wins: Multi-Discipline Coordination & Clash Detection

Renovations & Retrofits

Structural and MEP changes are high-risk. BIM reduces costly site conflicts before a single crew mobilizes.

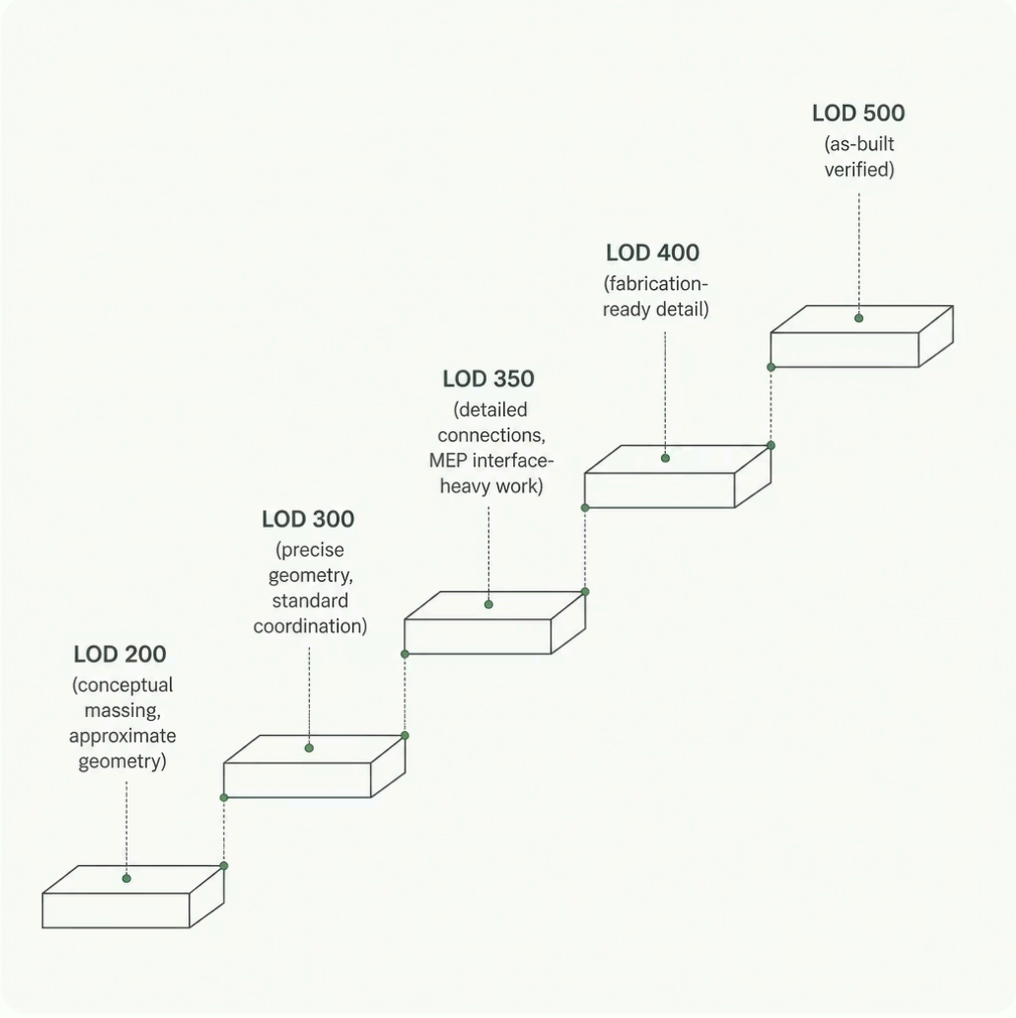
MEP-Heavy Projects

Pipe vs. beam, duct vs. conduit – BIM enables 3D clash avoidance that 2D drawings simply cannot provide.

BIM-Mandated Projects

When owners or jurisdictions require BIM deliverables, there is no alternative – compliance is non-negotiable.

The LOD Reality Check: BIM Is Only as Good as the Spec



Tejjy's Scan-to-BIM Range

Tejjy delivers Scan-to-BIM at **LOD 200-500**, with LOD 300 as the most common coordination standard and LOD 350 for tighter MEP interface-heavy projects.

Define LOD Early

Specify your required LOD in the **BIM Execution Plan** before work begins. Over-modeling wastes budget; under-modeling forces costly rework. The right LOD is the one that matches your project's actual decision-making needs.

The Most Common Trap: Ordering the Wrong Output

❌ BIM When You Needed CAD

Commissioning a full intelligent model for a project that only required a handful of 2D permit drawings **wastes budget and delays delivery** with no added value to the team.

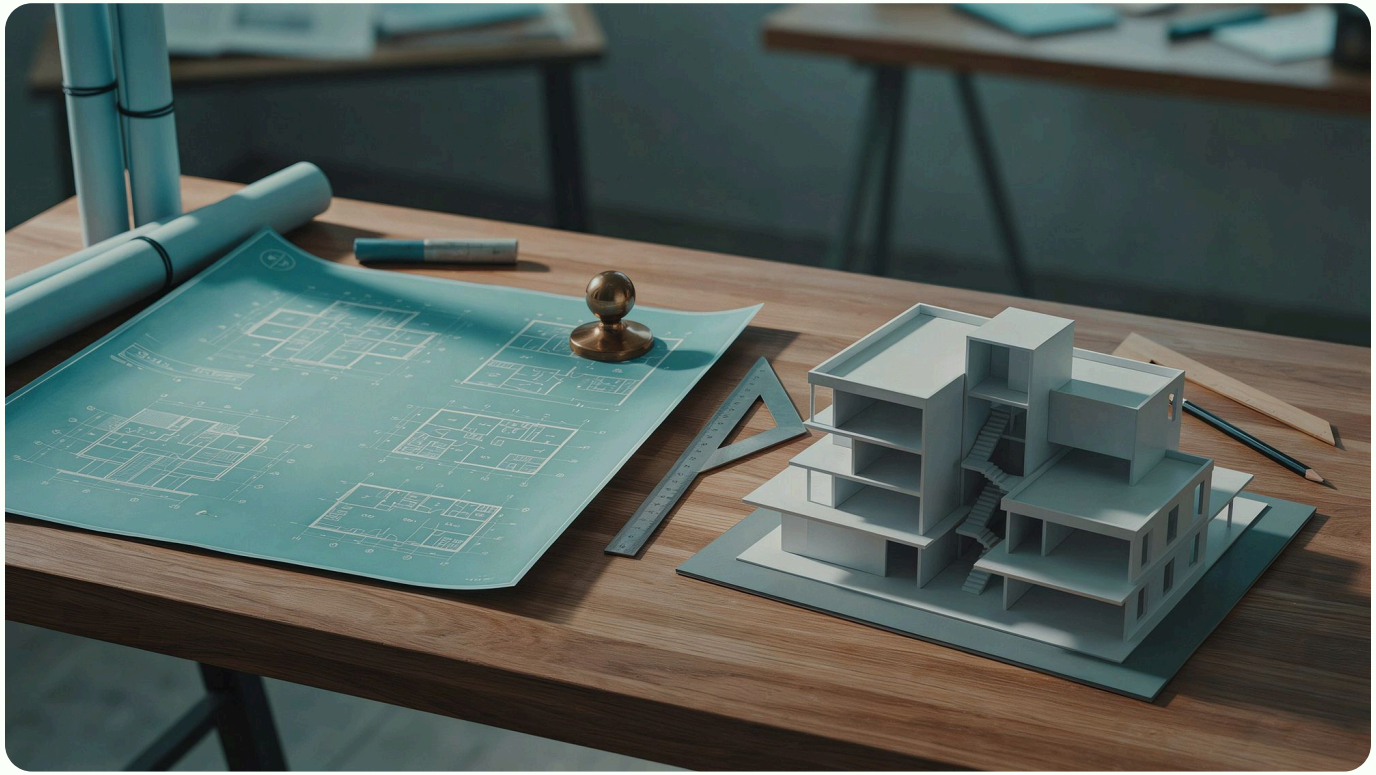
❌ CAD When You Needed BIM

Ordering 2D drawings for a project with complex 3D relationships **invites rework** when clashes appear on site – the most expensive place to discover coordination failures.

The right deliverable isn't about preference – it's about what decisions you need to make downstream.

CHAPTER 3

The Smart Middle Ground: Hybrid Delivery



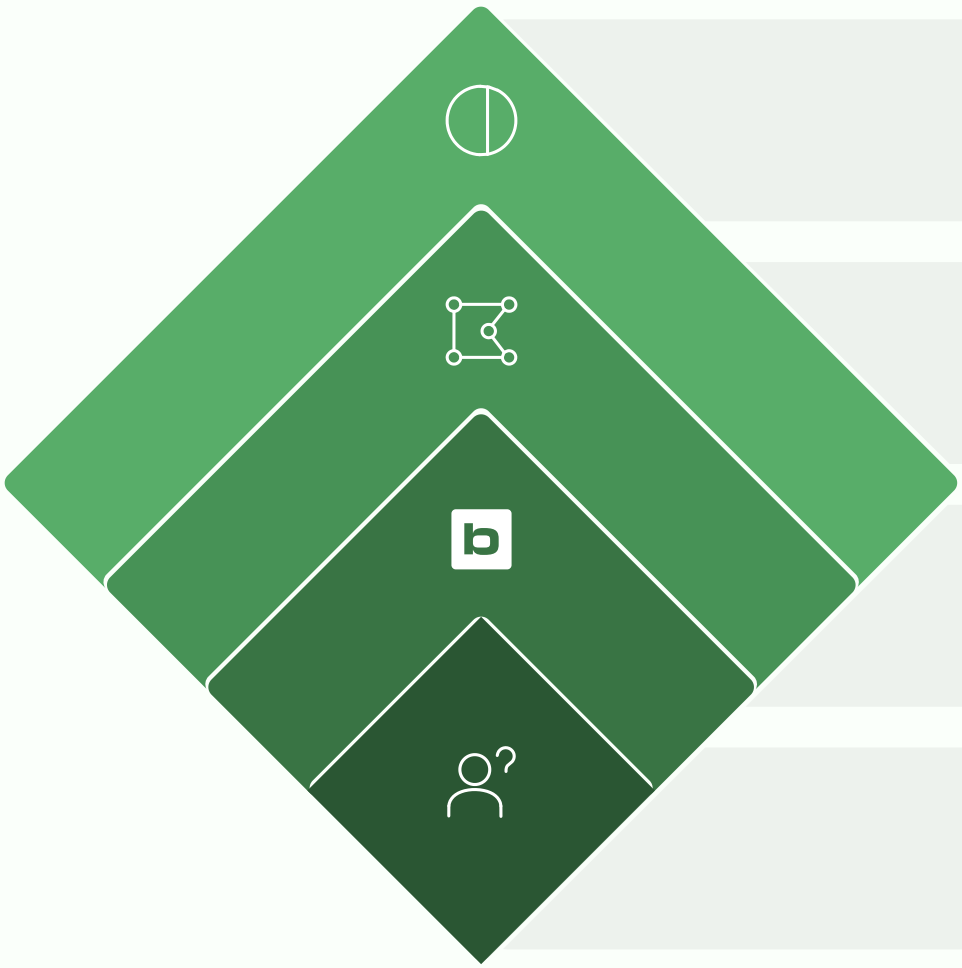
Best of Both Worlds

Hybrid delivery uses **BIM for core building elements** – structure, primary MEP systems, key architectural components – while relying on **CAD for specialty details** where 2D precision is sufficient and faster.

A Practical Upgrade Path

Because both outputs originate from the same point cloud, upgrading from CAD to BIM later remains practical. The reality capture data is your **single source of truth** throughout the project lifecycle.

Fast Selection Checklist: What to Ask Before You Decide



Expanding Requirements
Phase: CAD now, upgrade to BIM

Quick 2D Permit Drawings
Choose CAD for fast permits

Coordination & Clashes
Choose BIM for clash detection

What does your project need?
Identify primary requirement

1 Need clash detection, lifecycle data, or multi-discipline coordination?

Choose **BIM** – the intelligence built into the model will pay for itself in avoided conflicts.

2 Need permit-ready 2D drawings and your team works in DWG?

Choose **CAD** – fast, familiar, and cost-effective for the right use case.

3 Unsure if requirements will expand?

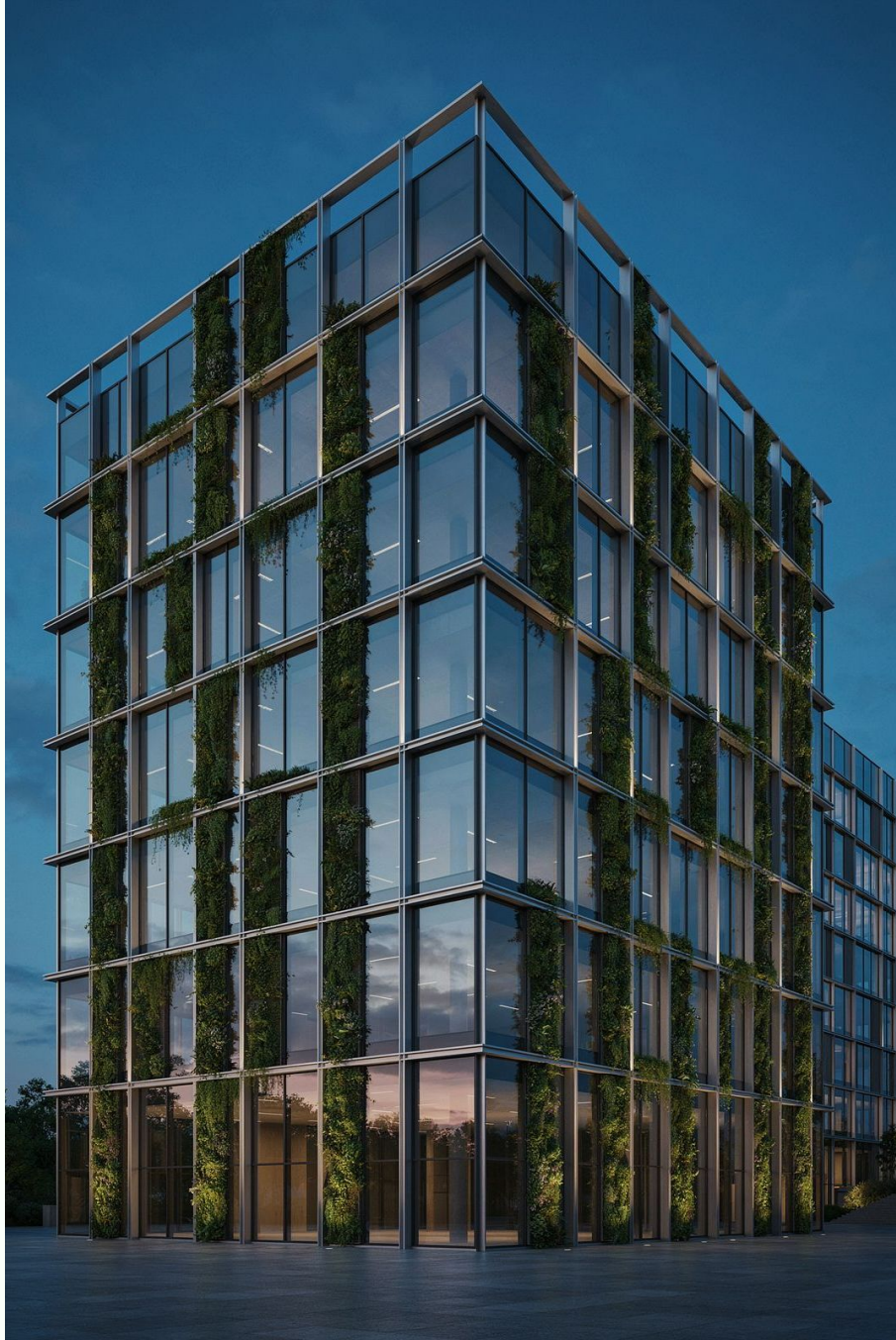
Phase it – deliver CAD first, preserve the point cloud as your upgrade foundation.

Conclusion: Geometry vs. Intelligence — Choose Wisely

The point cloud sets your **accuracy ceiling**. CAD vs. BIM determines what decisions you can make from that data. Choose based on whether you need geometry-only documentation – or intelligent coordination with lifecycle value.

Your Next Step

Share your project goal, required formats (DWG / Revit / IFC), and target LOD. Tejjy will recommend the most cost-effective deliverable path – complete with QA/QC.



Ready to Choose the Right Deliverable?

Let's find the most efficient path from your point cloud to your project goal – whether that's CAD, BIM, or a smart hybrid of both.

🌐 Website

www.tejjy.com

📞 Call Us

202-465-4830

✉️ Email Us

info@tejjy.com

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Thank You

We appreciate your time and trust. Tejjy Inc. is proud to deliver precision Scan-to-CAD and Scan-to-BIM solutions that keep your projects on time, on budget, and conflict-free.

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"The right deliverable starts with the right conversation. Let's talk."